Alaska Department of Environmental Conservation
Comments on SOI Discoverer $PM_{2.5}$ Speciation Monitoring QAPP Addendum

Sec A6, pg 7: It is strongly recommended that the EPA Speciation Trends Network (STN) monitoring QA requirements be adhered to rather than a hybrid of STN and IMPROVE program requirements. Higher-quality, defensible data is more likely to be obtained using STN QA guidelines, which are better suited to the proposed monitoring project, than by adopting a piecemeal approach of mixing requirements from different programs.

EPA response: Neither the Dec 2000 STN QAPP nor the draft 2011 CSN QAPP provide specific QC limits for lab equipment. The EPA QAPPs both specify a CV 'cap/goal' and provide statistical equations to compute total system measurement error for each sampling through analysis process to determine if these goals are met. R10 will request that this CV process be used by SOI/SLR as well.

Sec A8, pg 16: It is not specified what form the "training on the proper set-up, calibration and operation of the samplers by the instrument manufacturer" will take. Is this on-site training (recommended), over-the-phone, on-line, or other form?

EPA response: Agreed. We will request that this be clarified in the QAPP addendum.

Sec B1, pg 17: A one-in-three day sampling schedule will give a much more accurate characterization of the particulate pollutant plume and is strongly preferred over a one-in-six day schedule.

EPA Response: The CSN program requires every third day sampling to help determine long term trends (≥ 5 years). R10's intent for the SOI speciation program is to characterize PM2.5 and to use this data to model secondary aerosol formation. R10 believes that every six day sampling year round will meet these goals, though it should be noted that we have not performed a DQO assessment to back up this belief.

Sec B3, pg 27: An "alternate shipping schedule" of collecting and storing post-sampling filters to ship to the contract laboratory "in batches" is proposed by SLR, but is discouraged by the Department. Sample integrity can, and likely will, be compromised by storing filters in the field in varying temperature and humidity conditions for long periods of time instead of in climatically-controlled laboratory conditions. Also, holding samples on-site until large batches are shipped together substantially increases the likelihood that laboratory deadlines for filter analysis will be exceeded and, therefore, increases the potential for data invalidation. Daily or near-daily air service is available from Prudhoe Bay/Deadhorse (AK Air) and Wainwright (Era Aviation), so the "logistics involved in shipping samples out of Alaska monitoring locations" are fairly easily dealt with at these two sites and do not merit holding filters in the field beyond normal STN guidelines. Note that STN guidelines require post-sampled filters to be held between 0° and 4° C rather than < 4° C, as proposed.

EPA Response: EPA will request a change to the QAPP addendum language to have it state that post exposure filter cassettes are to be stored at 4° C, in alignment with the Dec 2000 STN QAPP (and draft 2011 CSN QAPP). R10 will also request that exposed cassettes be sent to the lab as soon as practicable to reduce the chance that QAPP specified holding times are met.

Sec B6.2, pg 32: According to this section it sounds as though the SLR station operators will only be visiting the monitoring sites periodically, perhaps monthly, to conduct QC flow checks and inspect "general station condition", while the daily site operations will be handled by "station site technicians". However, the station site technicians are not identified and their specific roles, experience and qualifications are not discussed.

EPA response: R10 suspects that the same stations technicians who are presently responsible for daily site operations at these two sites will also be responsible for speciation. Nonetheless R10 will request that this be clarified in the addendum.

Sec C1.1, pg 37: It is strongly recommended that quarterly performance audits be conducted by an independent 3rd party rather than by a member of the same organization operating the monitoring sites and managing the project. According to the Deadhorse and Wainwright Ambient Air and Meteorological Monitoring QAPPs, a 3rd party QA auditor is going to perform audits on all other monitoring equipment, and it is recommended that this or another independent auditor conduct audits of the Speciation monitors as well.

EPA response: Agreed. We will request that a 3rd party auditor be used similar to their criteria pollutant monitoring protocol.

It should be specified that audits will not be performed adjacent to, i.e. not at the same site visit as, operator QC checks or calibrations.

EPA Response: Agreed. We will request that this be a required procedure in the QAPP addendum.

Sec C1.2, pg 37: In paragraph 2 it is stated that "Any questioned data will be brought to the attention of the Project Manager and Data Manger who will determine whether the data will be invalidated or accepted." However, the criteria to be used to invalidate data are not specified. A similar statement is made in Sec B10.2, "If documentation is *not sufficiently defensible*, the affected data will be invalidated", without giving specific criteria of what is sufficiently defensible.

EPA Response: Agreed. We will request that validation procedures be added to the QAPP addendum.

No specific credentials or laboratory SOPs from the laboratory conducting the filter analyses, Chester LabNet, are attached or discussed. A copy of a NIOSH method is not the equivalent of a laboratory SOP.

EPA Response: Agreed. We will request that the needed SOPs are added or referenced in the QAPP addendum.